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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/820,512	03/29/2001	David William Boerstler	AUS920000511US1	5447

7590

08/16/2004

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EXAMINER

TSE, YOUNG TOI

ART UNIT

PAPER NUMBER

2637

DATE MAILED: 08/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/820,512

Applicant(s)

BOERSTLER, DAVID WILLIAM

Examiner

YOUNG T. TSE

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-14 and 16-24 is/are rejected.
- 7) ☒ Claim(s) 3 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/29/2001</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because the reference sign "T9" shown in Figure 3 appears to be "T7" as mentioned on page 8, line 14 of the specification. Further, in Figure 7, the reference sign "Out" from point 711 should be "OutB". Furthermore, the block pertaining elements (601A to 601J) in Figures 6A and 6B need to have descriptive label, in conformance with 37 CFR 1.84(n) and 1.84(o). For example, a descriptive label of "Latch" should be inserted into Figure 6A to properly describe element (601A). Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

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2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: the disclosure of the drawings includes Figure 6A and Figure 6B, however, they are not mentioned in the specification. Corrected drawing sheets, or amendment to the specification to add the reference character(s) in the description, are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: on page 1, lines 5-8, page 5, line 17, and page 6, lines 1-2 and 18, Applicant is requested to update the US serial application numbers and the filing dates including the update of the US patent numbers if they are allowed; on page 4, line 16, Figure 6 is described in the Brief Description of the Drawings, however, Figures 6A and 6B are also shown in the disclosure of the drawings; on page 6, line 19, "generation" appears to read "generator"; and on page 22, line 14, "sate/retiming" should be "state/retiming". For the formality of the application under the present office practice, applicant(s) is required to replace "Claims" with

“I or We Claim”, “The Invention Claimed Is” (or the equivalent) before the Claims part of the specification of the instant application. See MPEP 608.01(m). Appropriate correction is required.

Claim Objections

3. Claims 1-24 are objected to because of the following informalities: in claim 1 (line 7) and claim 13 (line 11), “a period” should be “a particular period”; in claim 2 (line 2) and claim 14 (line 2), “a particular period” should be “said particular period” for clarity; in claim 3 (line 4) and claim 15 (line 4), the word “signal” should be deleted; in line 1 of claims 7, 9, 19 and 21, “said first unit” appears to read “said retiming mechanism”; in claim 8 (line 2) and claim 20 (line 2), “output” should be “outputs”; and in claim 14 (line 1), “12” should be “13”; wherein the dependent claims 4-6, 10-12, 16-18 and 22-24 are depended directly or indirectly upon claims 1 and 13. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 4-11 and 16-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 4 (line 3), claim 7 (line 4), claim 8 (line 2), claim 9 (lines 4-5), claim 11 (lines 2-3), claim 16 (line 3), claim 19 (line 4), claim 20 (line 2), claim 21 (lines 4-5), and claim 23 (lines 2-3), the phrase “particular synchronization state/retiming state pair” is indefinite because it is unclear “particular synchronization state” or “retiming state pair”

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or "particular synchronization state and retiming state pair"? Wherein claims 5-6, 10, 17-18 and 22 are depending claims depend directly or indirectly upon claims 4, 7, 16 and 19.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-2, 12-14 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Jung et al..

Jung et al. (US Patent No. 5,887,040) discloses a high speed digital data retiming apparatus in a receiver circuit is shown in Figure 2.

Referring to Figure 2, the retiming apparatus comprises a clock generating circuit 201 for generating a multi-phase clock from an external clock; a clock selection circuit 202 for selecting clock signals of serial data; a retiming synchronization circuit 203 for selecting a synchronized clock pulse; a data retiming circuit 204 for generating retimed data of the serial data based on the synchronized clock pulse; and a an elastic buffer 205 for generating retimed serial data of the retimed data based on the external clock. See col. 3, line 42 to col. 4, line 6.

Figure 3 shows the detailed embodiment of the clock generating circuit 201 of Figure 2.

Figures 5-7 show the detailed embodiment of the clock selection circuit 202 of Figure 2 to generate normal phase clock select signals and inverse phase clock select signals which is the complement of the normal phase clock select signals. See col. 6, lines 24-51.

Figure 10 shows the detailed embodiment of the retiming synchronization circuit 203 of Figure 2.

With respect to claim 1 and claim 13, the serial data is provided to an input of the clock selection circuit 202 and the data retiming circuit 204; the phases of the external clock are generated by the clock generating circuit 201; the retiming synchronization circuit 203 and the data retiming circuit 204 of the retiming apparatus for reducing timing uncertainties in the serial data by selecting a particular phase of the clock during a particular period of the serial data which is the nature of the goal for generating a retimed data in a retiming apparatus. In claim 13, although Jung does not explicitly show or suggest where is the serial data derived from. As mentioned in the background information on pages 1 and 2 of the instant application, it is well known to a person skill in the art that the serial data of a receiver is derived from a transmitter for converting parallel data into serial data before transmitting the serial data to the receiver through a transmission medium.

With respect to claims 12 and 24, Jung teaches that the serial data are high speed digital data (col. 1, lines 7-13), and the external clock for synchronization of the serial data only. Therefore, the frequency of the external clock is lower than the data rate of the serial data.

With respect to claims 2 and 14, since the clock selection circuit 202 and the retiming synchronization circuit 203 shown in Figures 5-7 and 10 are integrated by logic circuits or gates, therefore, the particular phase of the clock during a particular period of the serial data corresponds to a particular retiming state.

Allowable Subject Matter

8. Claims 3 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Claims 4-11 and 16-23 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

10. The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to show or suggest the particular phase of the clock during a particular period of the serial data corresponds to a particular retiming state which is paired with a particular synchronization state.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

References Tash et al., Buckner et al., Chen, and Dalmia are related to retiming or recovery data circuits in a receiver circuit for generating a retimed or recovered data and clock based on a selected phase of a plurality phases of a clock.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Young Tse** whose telephone number is **(703) 305-4736**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Jay Patel**, can be reached at **(703) 308-7728**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

P.O. Box 1450

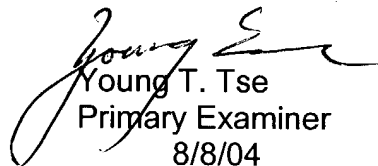
Alexandria, VA 22313-1450

or faxed to:

(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.


Young T. Tse
Primary Examiner
8/8/04